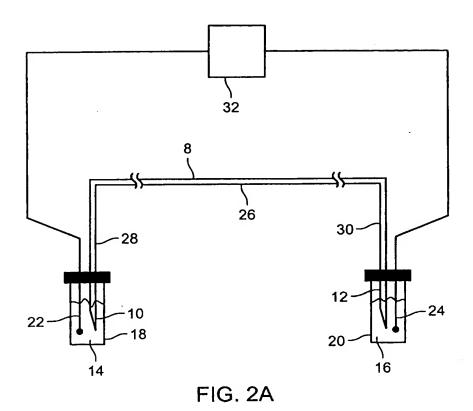


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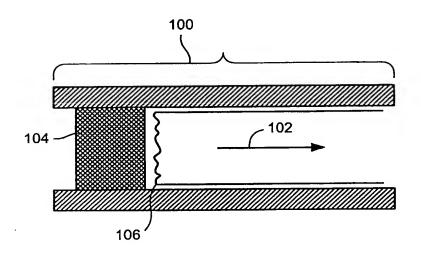


FIG. 2B

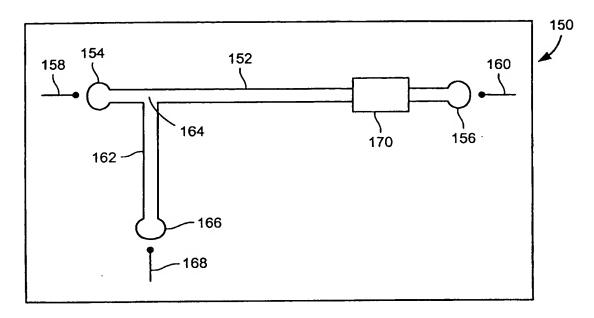


FIG. 3A

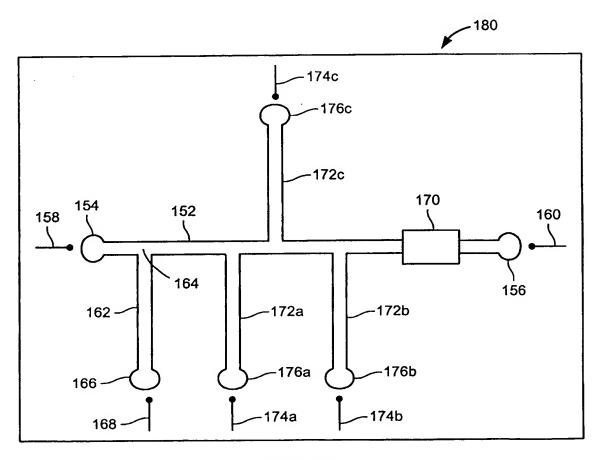
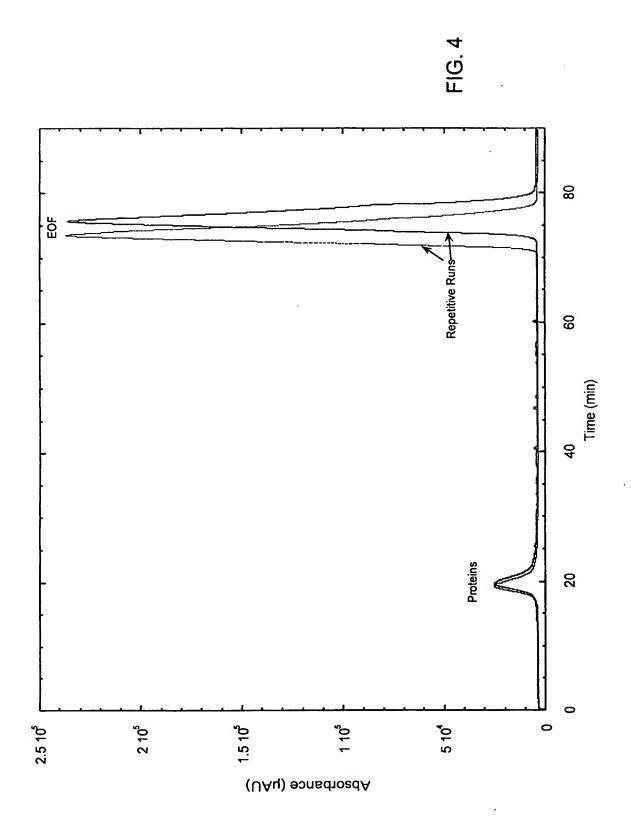
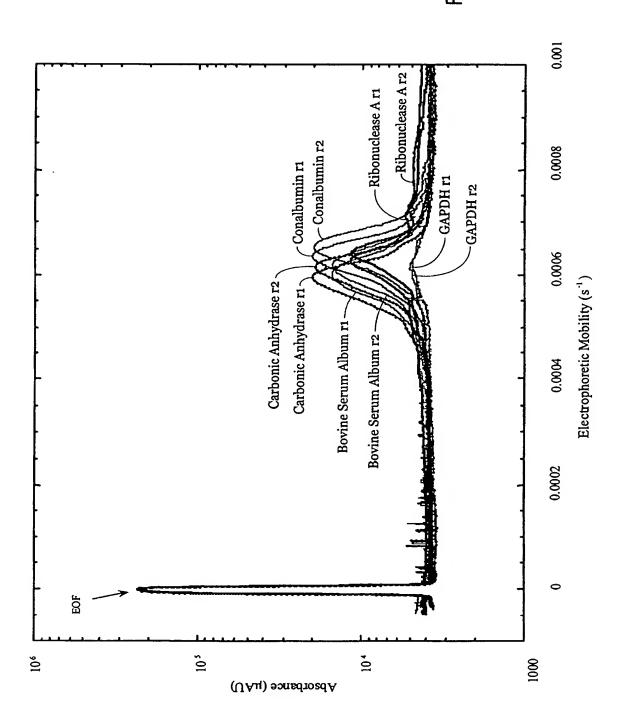
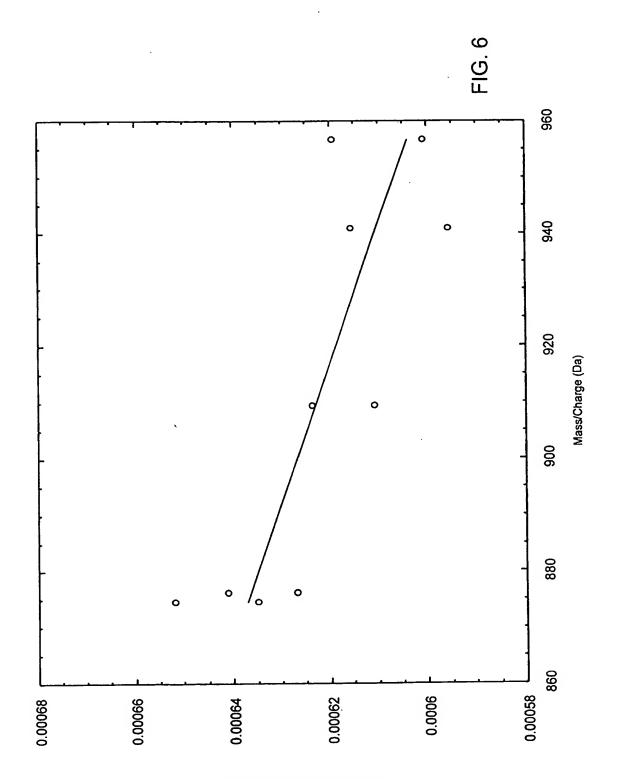


FIG. 3B



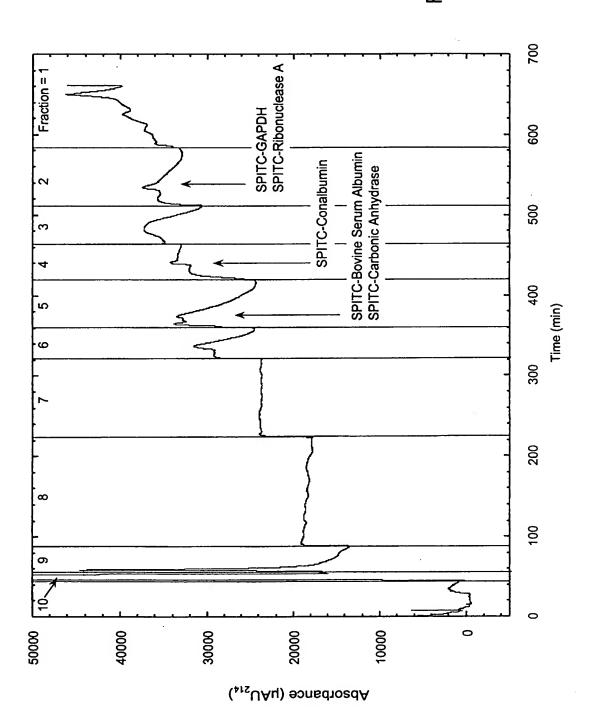


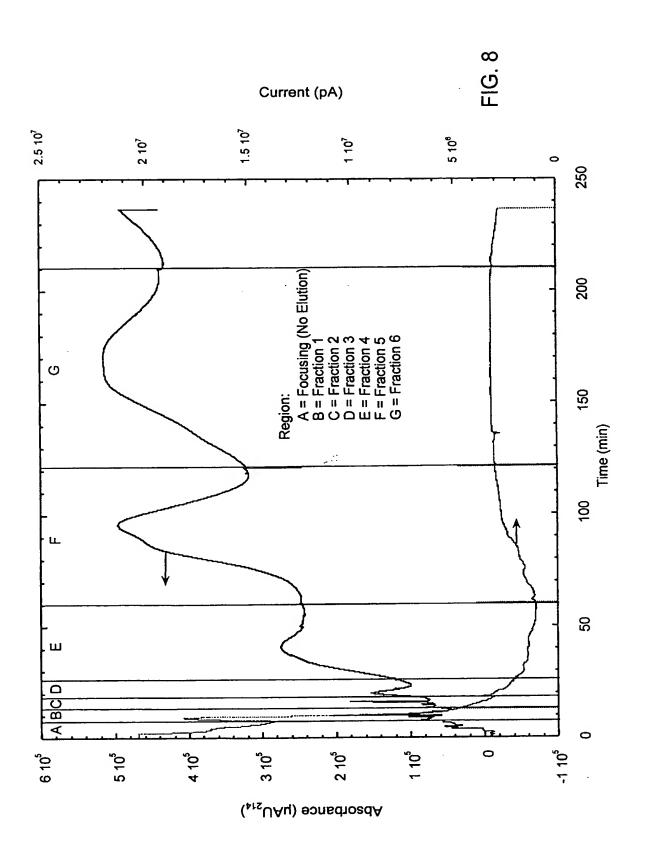


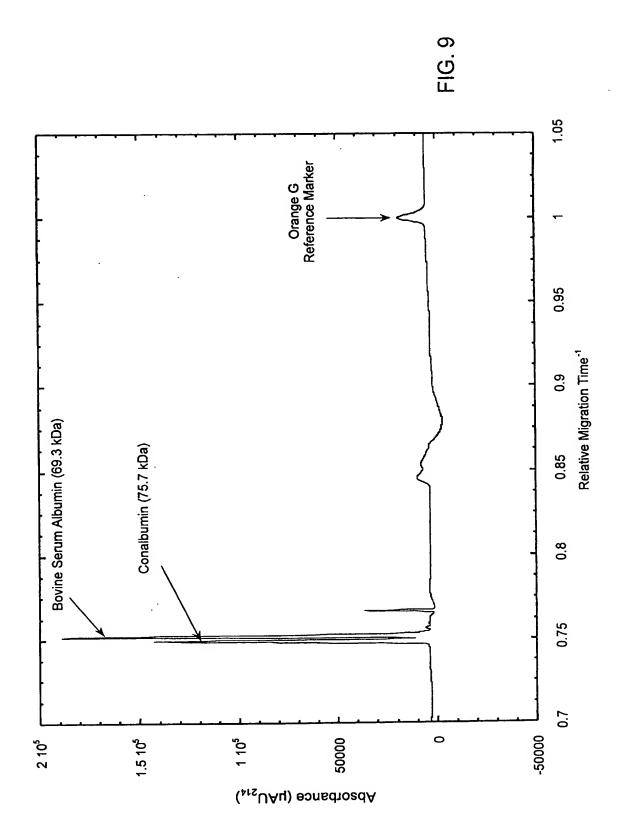


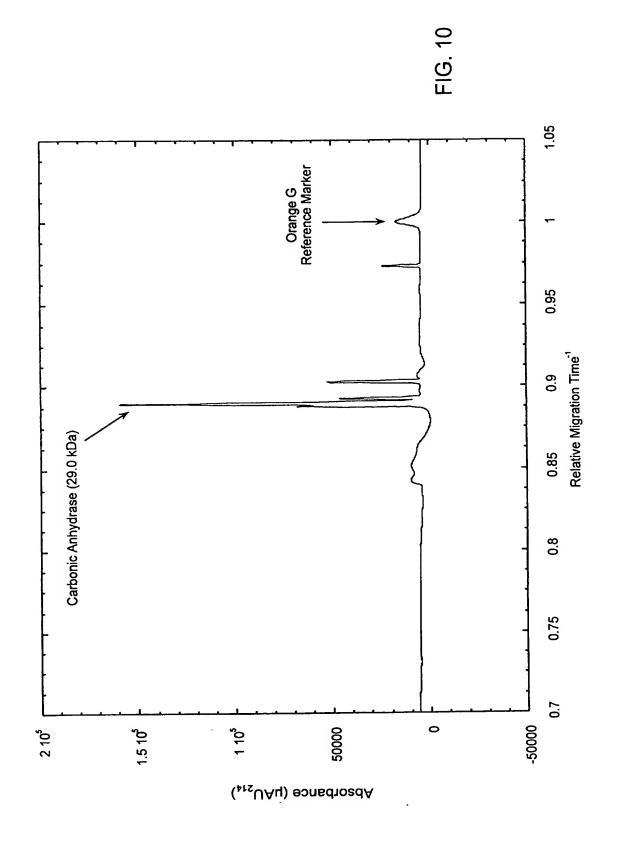
El ctrophoretic Mobility (s-1)

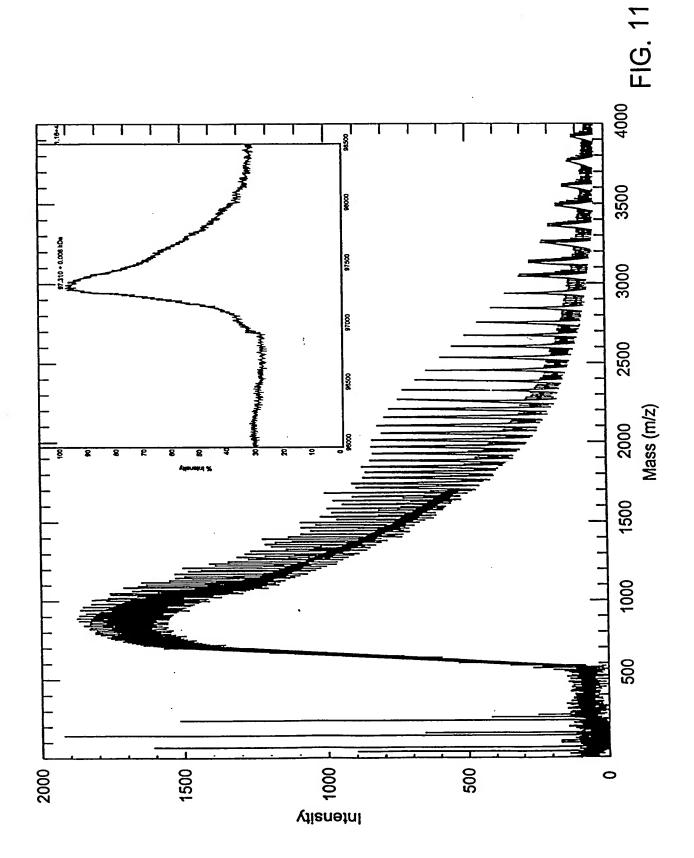


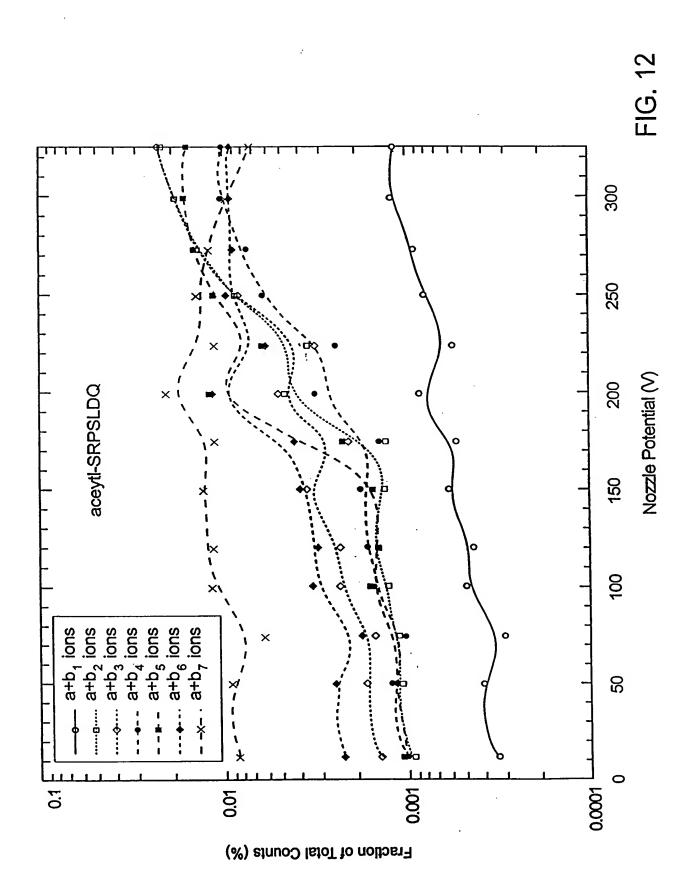


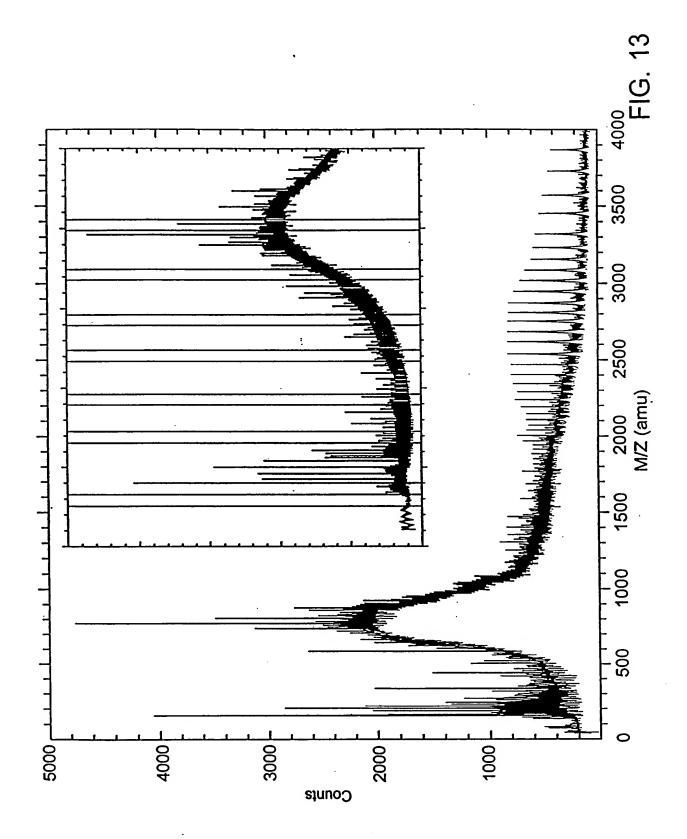


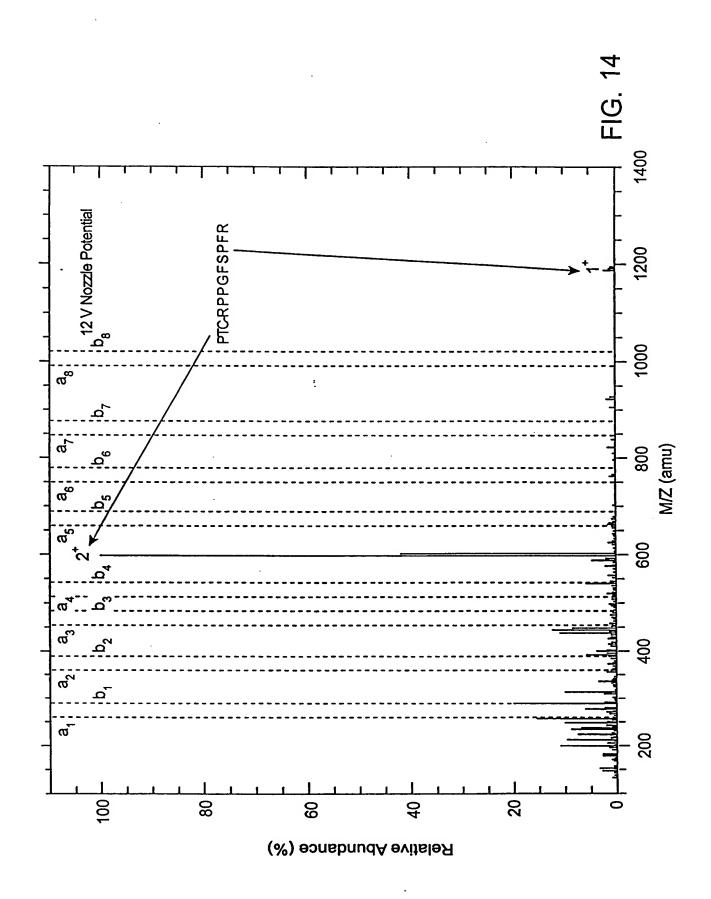


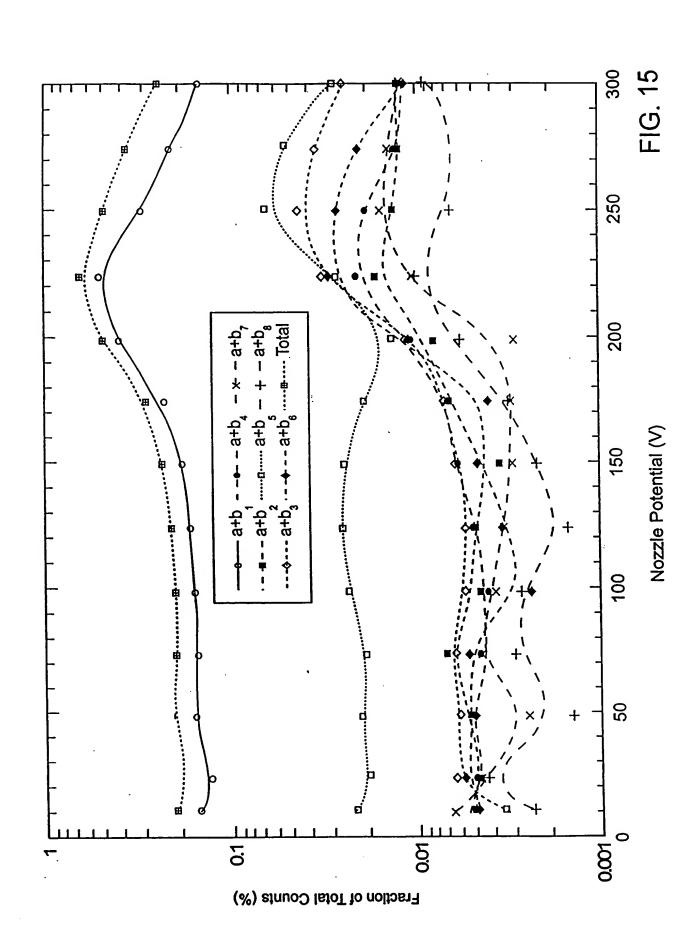


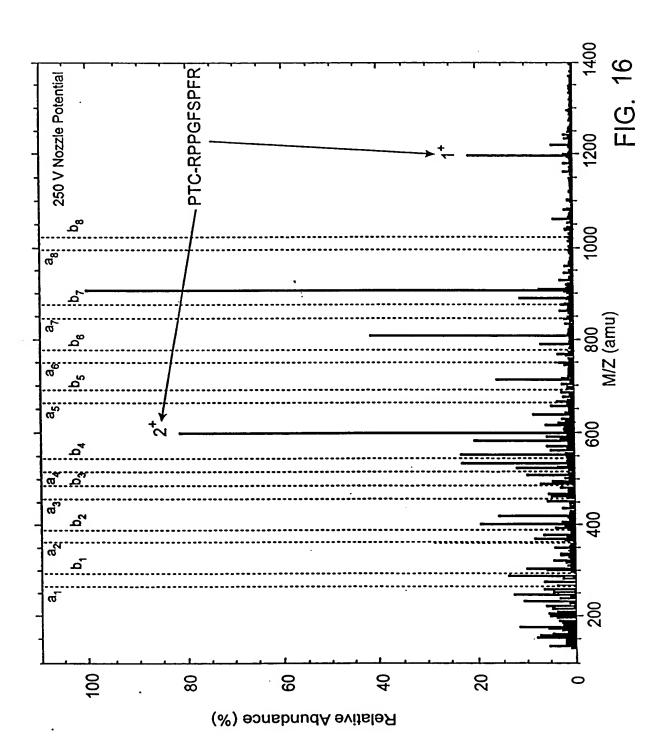


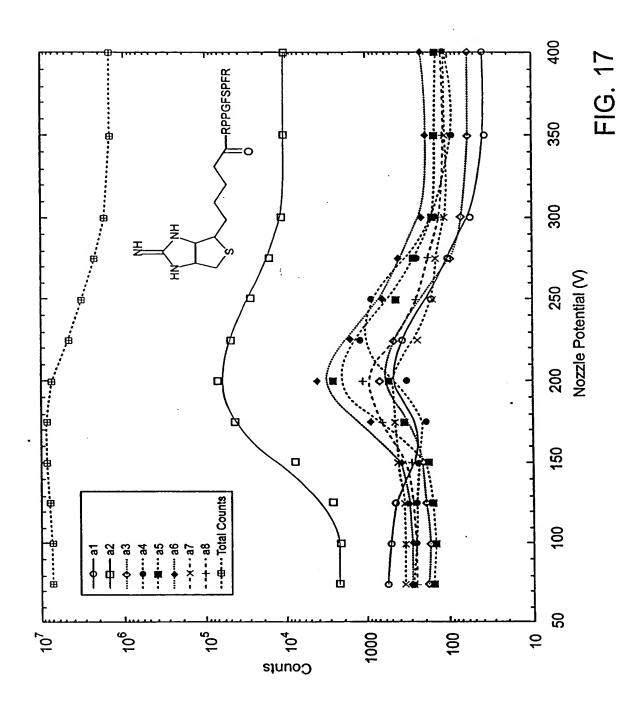


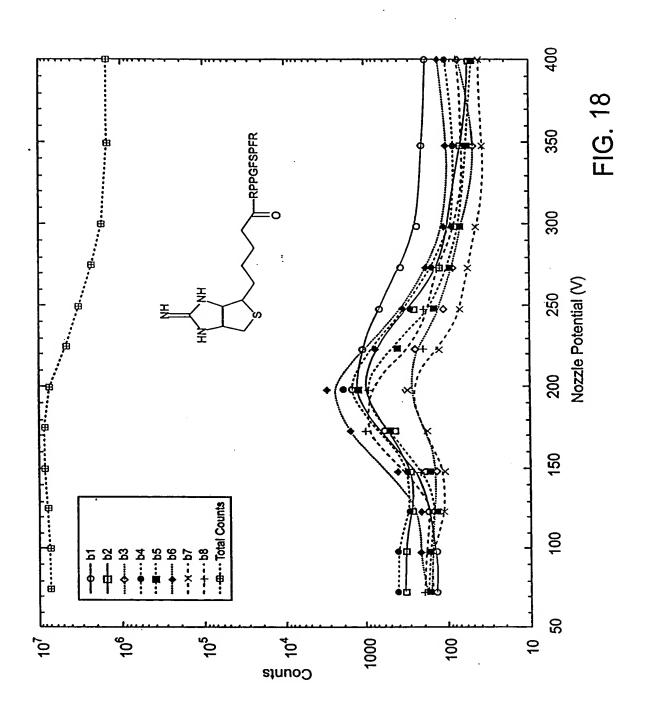


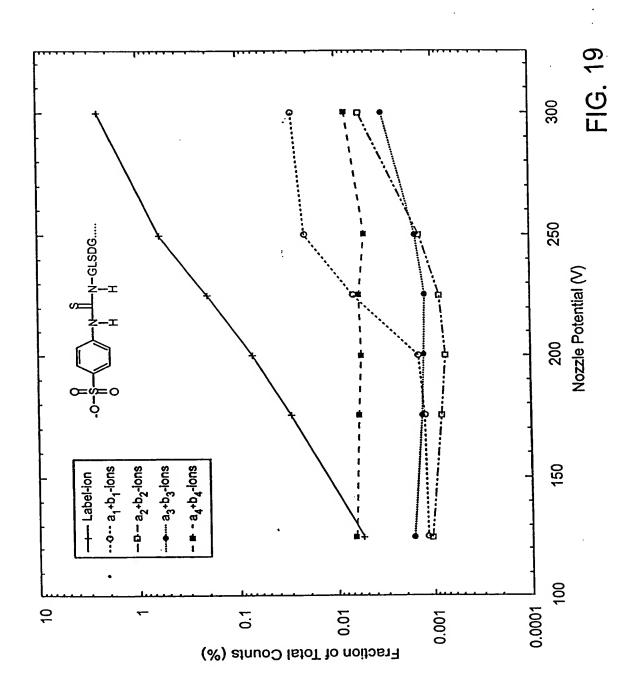


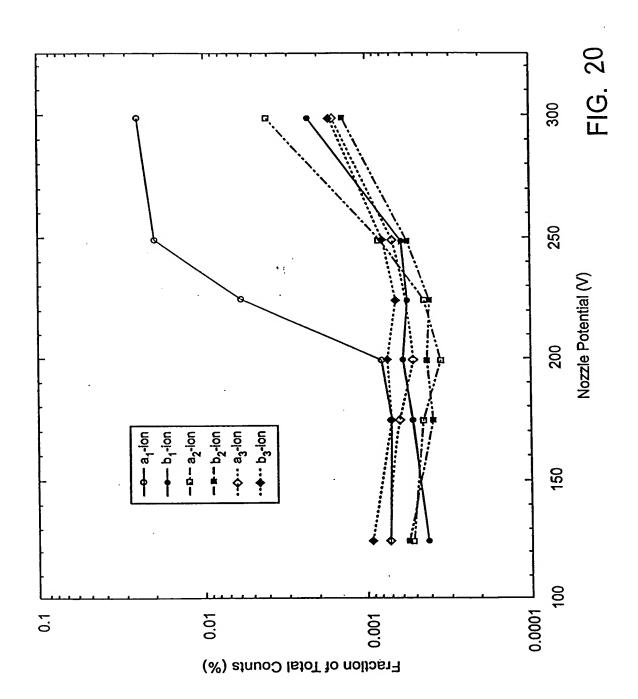


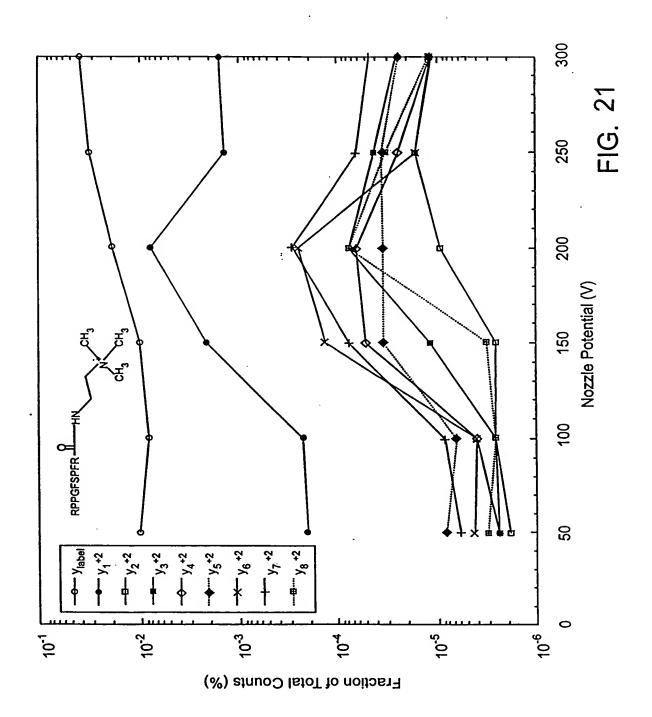




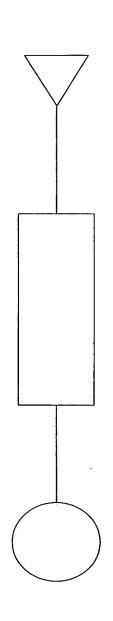








# Figure 22



Quantitative Detection Constituent Constituent for Mass

Unique Ion Mass

Spectrometer

 Radioisotope • Fluorescent

Chromaphor

Reactive Constituent

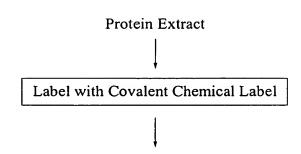
 functional group reactive to primary amines functional group reactive to carboxylic acids

> ineffeciently ionized at protein ionization effeciently ionized at protein ionization conditions conditions

# Figure 23

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## Figure 24



Separate Labelled Proteins by Electrophoresis

- one or two dimensional depending on number of proteins in sample
- capillary or gel electrophoresis depending on label used

Determine Complete or Partial Protein Sequence of Separated Labelled Proteins by Mass Spectrometry

- electrospray if separated by capillary electrophoresis
- MALDI if separated by gel electrophoresis

### Figure 25

$$Label-H \downarrow R_{R_{1}} \qquad Label-H \downarrow R_{R_{1}}$$

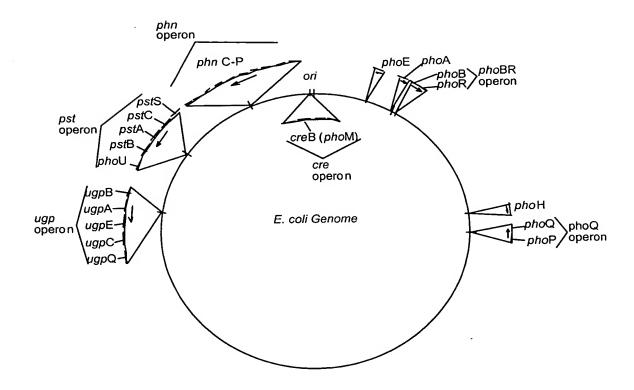


Figure 26



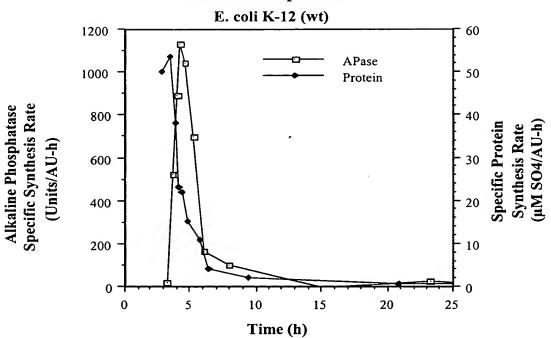
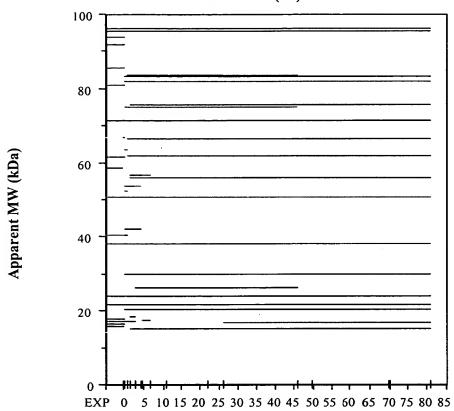


Figure 27

### **Phosphate Starvation Response**





Time from Starvation Onset (h)

Figure 28

